

Yale Tobacco Center of Regulatory Science

Flavors and E-cigarette Effects in Adolescent Smokers (Project 3)

Krishnan-Sarin, Suchitra

P50 DA-036151-01

Abstract:

Tobacco addiction is known to be a pediatric phenomenon with most smokers initiating smoking prior to the age of 18 years. Adolescents are highly susceptible to the use of emerging modified risk tobacco products like electronic cigarettes (e-cigarettes), which are marketed with diverse flavors (sweet, menthol) and may be especially attractive to adolescents. Uptake of such product may increase initiation and maintenance of tobacco addiction. Therefore, developing an understanding of whether flavors influence the attractiveness of the product or whether they actually influence its addictive property is crucial to the regulation of the constituents of existing and future modified risk tobacco products. Therefore, we proposed two studies using psychophysical methods in laboratory settings to investigate the reinforcing properties of e-cigarettes and whether they are altered by commonly used flavor constituents among adolescents who smoke mentholated and non-mentholated cigarettes. The first study will evaluate the influence of low and high doses of menthol on reinforcement experienced from e-cigarettes that contain different levels of nicotine. We will also examine if preference for menthol vs. non-menthol e-cigarettes documented in the laboratory is related to type of tobacco product (i.e. menthol/non-menthol) used at one-year follow up. The second study will extend the findings from the first study and compare menthol, a secondary flavor (e.g. cherry, chocolate), and the additive effects of these two flavors to assess how independent and interactive effects of flavoring alters the reinforcement efficacy from e-cigarettes containing nicotine. Reinforcing efficacy will be determined using experimental reinforcement paradigms and drug effect scales, as well measures of relief of withdrawal and craving. This proposal is highly significant and novel because of its ability to serve as a model for future evaluations of any new flavors that are proposed for new emerging modified risk tobacco products among adolescents.